Amendments to the Drawings:

Two sheets of formal drawings (each labeled Replacement Sheet) for Figures 1 - 3 are enclosed.

REMARKS

Reexamination and reconsideration of the application as amended are requested.

The examiner's objection to the drawings is respectfully traversed in view of the enclosed replacement sheets for figures 1 - 3.

The examiner's rejection of claims 1 and 10 as being indefinite, under 35 USC 112, is respectfully traversed. Claims 1 and 10 have been amended to delete the phrase "and/or".

The examiner's rejection of claims 1-4 and 7-9 as being anticipated, under 35 USC 102, is respectfully traversed. The examiner rejects these claims as being unpatentable over Ikeda (US 6,607,260). Claims 2-4 and 7-9 depend from claim 1. Claim 1 requires: moving a sensor along the printhead scan axis over a plurality of images each including leading and trailing edge portions having respective image-outermost leading and trailing edges spaced apart along the printhead scan axis; obtaining data from the sensor; and determining the locations along the printhead scan axis of at least one of the leading and trailing edges using the data. Claim 1 also requires that each image include an intervening portion disposed between the leading and trailing edge portions, wherein the leading and trailing edge portions are printed at a higher print density than the intervening portion.

The examiner alleges that figure 6 of Ikeda shows such images. Applicants respectfully disagree. At first glance, it appears that images a-V, b-V, c-V and d-V of figure 6 of Ikeda are printed as shown with image b-V having one intervening white portion, image c-V having three intervening white portions, and image d-V having five intervening white portions. However, one of ordinary skill in the art reading the entire patent would know that each image b-V, c-V and d-V actually has no white portions, and that the white portions of each such image in figure 6 merely represent that the images are different meaning image b-V was printed by recording head B of figure 1, image c-V was printed by recording head C of figure 1and image d-V was printed by recording head D of figure 1. The evidence that images b-V, c-V and d-V each look exactly like image a-V in print density is as follows.

First, column 17, lines 49-66 of Ikeda describe the printing of such images in figure 6 with column 17, lines 64-66 stating, "... the images being linearly continuous in the carriage movement direction". The carriage movement direction is shown in figure 1 wherein the carriage moves from left to right in the forward carriage movement direction (i.e., the forward main scanning direction) and moves from right to left in the reverse carriage movement direction (i.e., the reverse main scanning direction. It is noted that figure 1 also shows the paper feeding direction as being the sub-scanning direction (the sub-scanning direction also being shown in figure 6). This means that image b-V is linearly continuous from left to right. Also, see image b-V in figure 10 and images b-V, c-V and d-V in figure 11 which show that such images have the same continuous print density as image a-V.

Second, refer to figure 6 of Ikeda and note that the reading direction of the sensor is vertically from top to bottom, wherein when the sensor is aligned with image a-V and is above image a-ref3, the sensor moves downward with the sensor output being shown in figure 6 as being a low value only when reading the two images a-ref3 and a-V. Compare that with when the sensor is aligned with image d-V and is above image a-ref3. When the sensor moves downward, the sensor output is shown in figure 6 as being a low value only when reading the two images a-ref3 and d-V. Note that the low value of the sensor output when reading image d-V is identical with the low value of the sensor output when reading image a-V and when reading image a-ref3. This means the print density for each image is identical meaning each image actually does not have any intervening white portion.

Third, realize that when the sensor of Ikeda is aligned with image d-V and is above image a-ref3 and begins to move vertically from top to bottom over such images, the sensor output will be used to detect the top edge (which is the leading edge encountered by the moving sensor) and the bottom edge (which is the trailing edge encountered by the sensor) of image a-ref3 and the top edge (which is the leading edge encountered by the sensor) and the bottom edge (which is the trailing edge encountered by the sensor) of image d-V. Detecting the leading and trailing edges requires detecting the change in signal of the sensor output. A large change in signal makes such edge detection easier. If image d-V actually had the five intervening white portions shown in figure 6, the sensor moving vertically from top to bottom would pick up a lot of white making

the detection of the top edge (the leading edge) and the bottom edge (the trailing edge) difficult because the signal output when the sensor is over image d-V would not change as much from when the sensor was over an all white area. No one of ordinary skill in the art would want to have the image d-V actually contain such intervening white portions.

The examiner also alleges that figures 1, 6 and 7 of Ikeda describe: moving a sensor along the printhead scan axis over a plurality of images each including leading and trailing edge portions having respective image-outermost leading and trailing edges spaced apart along the printhead scan axis; obtaining data from the sensor; and determining the locations along the printhead scan axis of at least one of the leading and trailing edges using the data. Applicants respectfully disagree. Images a-ref3, a-V, b-V, c-V and d-V of figure 6 of Ikeda are read by the sensor as the sensor is moving in a vertical top to bottom reading direction (see figure 6) which is also called the sub-scanning direction or the paper feeding direction (see figure 1) which is not the horizontal main scanning direction (see figure 1). Thus, Ikeda does not teach, suggest or describe moving a sensor along the printhead scan axis over the a-ref3, a-V, b-V, c-V and/or d-V images of figure 6. Applicants' claim 1 does require moving the sensor along the printhead scan axis over the plurality of images.

The examiner's rejection of claims 11-14 and 17-19 as being anticipated, under 35 USC 102, is respectfully traversed. The examiner rejects these claims as being unpatentable over Ikeda (US 6,607,260). Claims 12-14 and 17-19 depend from claim 11. Applicants' previous remarks concerning the a-V, b-V, c-V and d-V images of Ikeda having no intervening white (empty) portions is herein incorporated by reference. Even if images a-V, b-V, c-V and d-V of Ikeda actually had intervening white (empty) portions, claim 11 now requires that the intervening portion have a print density in the range of substantially 25% to substantially 50%.

Inasmuch as each of the objections and rejections has been answered by the above remarks, corrected drawings, and amended claims, it is respectfully requested that the objections and rejections be withdrawn, and that this application be passed to issue.

Respectfully submitted,

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